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**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the matter of)	
)	
Implementing a Nationwide, Broadband,)	PS Docket No. 06-
229		
Interoperable Public Safety Network in)	
the 700 MHz Band)	
)	
Development of Operational, Technical and)	Docket No. 96-86
Spectrum Requirements for Meeting Federal, State)		
and Local Public Safety Communications)		
Requirements Through the Year 2010)		

**COMMENTS OF
THE SPECTRUM COALITION FOR PUBLIC SAFETY**

Thank you for this opportunity to provide input on this critical public safety issue. Our organization was specifically created to address the kind of wide-area, cost-effective, broadband solutions the Commission envisions in this proposed rulemaking. The Spectrum Coalition¹ has read with interest the proposal of the Federal Communications Commission (FCC) for a “Implementing a Nationwide, Interoperable Public Safety Network in the 700 MHz Band” in the captioned proceeding, PS Docket No. 06-229, and we believe that our comments in light of our experiences in this area will be of value to the FCC. In this response, we have endeavored to provide relevant comments for each point raised in the Commission’s proposal.

The Spectrum Coalition would like to commend the Commission’s vision as delineated in the proposal for its recognition of the need for a nationwide, interoperable, broadband wireless network of networks for public safety. We agree that this vision is the right way for our nation to proceed.

¹ *The Spectrum Coalition for Public Safety is a group of more than 30 governments or government agencies dedicated to broadband solutions in the 700 MHz band. Current members of the Spectrum Coalition can be found at www.spectrumcoalition.org.*

In the last four years the Spectrum Coalition has strongly advocated the development of a wide-area, affordable broadband solution exclusively dedicated to public safety. During this time, the founding Coalition member, the District of Columbia, has gained over two years experience operating a citywide wireless broadband pilot public safety pilot network in the 700 MHz band. The success of this member's program demonstrates that the Commission's vision is viable and timely, as the technologies to enable the next generation of public safety capabilities are currently available. With FCC allocation of additional spectrum and the availability of requisite funding, our nation could embark on a new era in public safety communications tools.

The Coalition has serious concerns with the Commission's proposal about how we should achieve that vision and, while we debate the finer points of the proposal, the Commission is undermining the progress that public safety entities could make across the country towards implementing the vision.

The following encapsulates the summary of our comments to the proposed rulemaking:

1. Again we applaud the Commission's goal to create a national, interoperable, broadband network. This is consistent with Spectrum Coalition objectives and Coalition comments – objectives that we have articulated for the past four years. However, there are considerable issues with the Commission's solution for delivering on the vision. Specifically:
 - a. The amount of broadband spectrum proposed by the FCC is not sufficient. Thirty megahertz of spectrum is needed as has been previously demonstrated by the Spectrum Coalition.²
 - b. There are significant risks with the FCC's proposal that will require years, if ever, to eliminate. In the interim, the FCC will impede progress. Although many of these risks **may be** easily mitigated, most will be unknown for some period of time, and perhaps never resolved.
2. Interoperability can be achieved by the selection of a national broadband standard and interconnection of networks nationally. The proper model for broadband is one where the FCC applies the commercial model with the 30 MHz of spectrum remaining in the Upper 700 MHz band, while enabling a hybrid model with the existing

² *Public Safety Spectrum: How Much Do We Need For Data?* Spectrum Coalition for Public Safety, 25 October 2005.

12 MHz in the public safety portion of the 700 MHz band. This would allow jurisdictions and regions the choice to build interoperable networks or lease service from a carrier or the national licensee that controls this 12 MHz band.

3. The risks associated with cognitive radio use in the narrowband spectrum are unacceptable, and secondary use of the narrowband spectrum to use certain channels in certain areas can only be managed through the Regional Planning Committees (RPCs).³
4. It is our belief that the FCC should act immediately on the Eighth Notice of Proposed Rulemaking and issue a Report and Order to authorize licensing and implementation of broadband systems operated within current legal authority to proliferate.
5. As expressed in prior submissions, the Spectrum Coalition is supportive of a national broadband standard. Given the current state of the wireless industry's broadband solutions at 700 MHz, only one technology exists today that delivers cost-effectiveness, spectral efficiency, and the availability required: 1xEVDO Revision A.

1. National, Interoperable, Broadband Network

We agree with the approach of a national, interoperable, broadband network. The Spectrum Coalition has previously proposed solutions that would deliver on such a vision in its comments to the Eighth Notice of Proposed Rulemaking. In those comments, we indicated that such a vision could be accommodated by the selection of a single broadband standard. Some have argued that only regional interoperability is required and national standards will add cost. On the contrary, we believe that interoperability is needed between regions, and therefore, nationally. In addition, with spending from public safety concentrated towards a single standard, prices will decline and options will expand. There are technologies available today that will deliver unprecedented speeds at low costs. And due to intense competition, broadband solutions are becoming less costly every day. In 2002, the Spectrum Coalition was created to deliver on premises that the Commission, in 2006, now advocate: spectral efficiency, cost effective commercial solutions, and public safety grade deployments of broadband technologies. We are pleased to see the FCC embrace this model, but have concerns with the proposed modifications to this model.

³ See Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Ninth Notice of Proposed Rulemaking*, 21 FCC Rcd 3668 (2006) (*Eighth NPRM*) §

2. Considerable Issues Need Resolution

The Coalition respectfully suggests that the Commission mistakenly believes that the connection between a single licensee and commercial service providers will achieve broadband interoperability. There are benefits to a single licensee who can enforce the use of a single standard; however, the FCC already possesses the ability to enforce these standards. A single licensee can leverage its buying power throughout the entire United States; however, there are other methods to achieving these economies of scale that do not require a single licensee. The underlying premise of the Commission's proposal is that only commercial markets will build a public safety grade network, yet there is no evidence to support that. Furthermore, there appears to be the assumption that the construction of this network constitutes interoperability, while critical issues of governance, affordability of service and application level interoperability are unresolved or not addressed at all.

2a. Insufficient Spectrum:

Perhaps the most fundamental risk of the proposal is the assumption that there is a sufficiency of spectrum. As we have presented previously before the FCC, 30 MHz of spectrum for wide-area, broadband data is needed. As this proposal represents only 12 MHz for broadband use, it is inadequate to satisfy the entire need for public safety, especially when including the needs of Federal agencies. The FCC and the Congress must address this unmet need.

We contend, as presented in our white paper,⁴ that public safety would frequently utilize the entire amount of the 12 MHz. Due to the pre-emption status of public safety (priority access), the public sharing the proposed national public-private network would be left with no available spectrum. If no communications capabilities exist for those stuck in traffic due to a multi-vehicle accident, a time when they will most want to be able to use the service, will those customers remain loyal to the national licensee? If it is not commercially attractive, the network will fail and public safety will be left with nothing.

Just as importantly, can a single carrier with only 12 MHz of spectrum compete with major carriers that already hold 30-50 MHz? If a public safety carrier cannot compete, it will go out of business and leave public safety without any public safety grade broadband service. The only possible solution to this problem is to add this 12 MHz of spectrum to existing CMRS

⁴ See *id.* at 2 ¶ 1.a

allocations. This will severely limit the pool of potential service providers. Has one of these carriers made a commitment to build and operate to public safety grade, in all areas required by public safety, and with the sufficient security, priority, and reliability? We have not heard such a commitment.

2b. Significant Risks

Coverage and Reliability:

The FCC's premise regarding this proposal hinges on the commercial carriers and their paying customers. However, there are important differences between the needs of the CMRS industry and those of public safety communications. They can be summarized as coverage and reliability at present, but could easily evolve and serve to further differentiate the needs of both communities.

Public safety communications systems must deliver 100 percent service availability, in 100 percent of the places needed. The CMRS industry delivers coverage where it will derive sufficient profit and delivers sufficient capacity to sustain a typical busy hour. In areas where there are few customers or no major roads, the cellular carriers cannot justify the costs of building a site, much less its operations. Where will the commercial carriers interested in the Commission's model seek compensation for such losses? Without compensation, commercial entities will not build such a network. Is there enough low-cost spectrum here to make such a business proposition worthwhile?

One troubling aspect of this issue is that there might be a propensity to leverage the revenues of the urban areas to help pay for the suburban and rural areas. Considering the common sense actions of the Federal government to focus spending in the highest risk urban areas, this type of strategy is shortsighted. The unequal burden carried by urban areas to service rural areas will eventually serve to reduce broadband utilization in the urban areas where these capabilities are needed most.

Additionally, no wireless network, by itself, delivers coverage everywhere. Public safety communications solutions employ unit-to-unit communications and rapidly deployed infrastructure to situationally address areas without sufficient coverage. The Commission's proposal provides no solution for this issue, yet unit-to-unit communications are an integral component of public safety communications systems. If the entire block of spectrum is awarded to a commercial carrier via a national licensee, there would be no capability for wide-area broadband emergency deployment by public safety agencies. In the Spectrum Coalition white paper, we estimated

that five megahertz of spectrum would be needed for these solutions. Furthermore, should a major event disrupt communications systems (e.g., in the aftermath of Katrina), emergency deployable broadband solutions will be required. Without control of the spectrum, public safety will have to seek permission from a national licensee for access to the spectrum, causing lost time (if possible at all) that will affect dramatically impact emergency response.

Further, the CMRS industry balances reliability with profitability, while for public safety communications, reliability is paramount – lives hinge on its availability. Ultimately, the reliability of the network is defined as what the customer is willing to pay for. Clearly, given the reliability of today's cellular networks, customers are not willing to pay for the same level of reliability delivered by public safety networks. Who will then bare the cost to build and operate such improvements?

These are the gaps, as they are known today. We believe that just as public safety was the innovator of the radio solutions that paved the way for cellular deployments; public safety will likely lead the way to ad hoc video solutions. How will the needs of the public compare to the needs of public safety? This topic and the capabilities are evolving. It's likely that solutions will need to be tightly integrated with the physical layer of a wireless system. Without an ability to integrate with the physical layer, public safety will need to wait for the commercial markets to provide a solution; who knows how long this will take - or at what cost.

Control:

Previously we have outlined the impacts on emergency coverage solutions if public safety spectrum is ceded to commercial operators. However, there are other major ramifications of doing so on the infrastructure alone. They include:

- Dynamic restructuring of priorities: we are just now beginning to fully understand the benefits that applications like video have on public safety operations. How should these networks be configured to ensure that the most critical information receives the highest priority? How do we adjust priorities between local first responders and visiting first responders? These are issues that will take years to understand properly and adjust. Will the commercial carrier allow public safety to control network priority to accommodate the needed changes?

- **Prioritization within the pre-emption class of users:** It's clear, the FCC understands that public safety must pre-empt commercial usage in order to fulfill the public safety mission using commercial networks that are designed for typical, not severe, events. However, prioritization within that pre-emption class is also needed. For example, an emergency class of public safety service will be needed for video or other text messages that will require a higher priority than other video or messaging information. Additionally, as outlined above, a visiting first responder will likely need to take a lower priority to the local responder managing a major incident. Can the technologies address such levels of prioritization within the pre-emption class of users? We are unaware of any technology that can accommodate prioritization, nor of a technology in the standardization process that will solve this problem.
- **Features:** there are tremendous capabilities built into cell phones and PDAs today. Many of these features are designed, but are made inaccessible to the public, as carriers work to determine how to charge the public for use. Such actions and activities will stifle public safety innovation. Additionally, as discussed above, the integration of real-time streaming video with the physical layer may cause significant delays in introducing such capabilities. Furthermore, their impact on commercial networks may cause the operators to curtail such use, potentially at their own discretion, and to the detriment of saving lives and property. Real-time streaming video is prohibited by the cellular carriers today, what will change with this new business model to make it attractive for the carriers to provide in the future?

Security:

Can commercial operators protect public safety users in their networks with solutions that are as robust and reliable? This poses a serious concern for Spectrum Coalition members. Today, public safety personnel operating on commercial networks are in the public internet cloud, making them vulnerable to a hacker, terrorist, or criminal that might easily gain access to a commercial user. If that happened, it could severely impair the public safety communications infrastructure. By contrast, a public safety operated system can be protected from the public through the use of firewalls and other continuously monitored devices that can serve to protect public safety users from unwanted breaches by the public. Public safety can create a walled communications environment with restricted access for its users. In a

zero-day attack, public safety could disconnect its network from the Internet and continue to share information internally with minimal impact. If this happens in a commercial network, will public safety lose all communications capabilities? In a public/private network, would a failure (of a preemption capability or inadequate planning for management of a focused overload situation) manifest itself as an inadvertent denial of service situation? This result would serve no one well.

Business Model and Cost:

Is there a business model for such a network? Will the possibility of low cost spectrum offset the higher costs incurred for coverage, reliability, pre-emption, and more demanding services? If not, public safety will experience cost increases for service, not decreases. State and local operations budgets are becoming exceedingly smaller, not larger. Given the relatively low penetration rate of wireless data in the public safety market, we believe there is already pent-up demand for wireless data services that governments cannot afford. Many of the Spectrum Coalition members cannot afford equipping its personnel with commercial services at the current prices, much less pay the increased premiums that would be associated with higher levels of guaranteed service. These factors will only exacerbate the problem.

Even if a commercial entity steps forward today with guarantees of construction and affordability, will its business model withstand the test of time? This is an unknown. Will its customers be willing to be pre-empted? Arguably, public safety will have to sign a long-term deal with commercial carriers to build such a network. How will public safety evict an underperforming operator if necessary, especially one that has invested billions to upgrade its network? This puts public safety at risk from a long-term agreement, perhaps 30 years in duration, without the ability to terminate an operator who is unable to provide interoperability.

The FCC has acknowledged that public safety lacks the funding to pay for this type of network. This may or may not be true, but to assume public safety can pay for increased reliability and priority access plus a carrier's profit margin is illogical. To assume that free spectrum, that will be predominately unavailable due to public safety priority, will overcome the economic burdens of meeting these stringent requirements is questionable. We encourage serious commercial entities that desire to build this type of infrastructure to step forward.

The underlying premise of the FCC's proposal is that public safety cannot afford to build such a network, and therefore, one must be built for them. The challenge for public safety is the cost of such service is currently

unknown. Many Coalition members cannot afford commercial wireless services for existing personnel. New services such as streaming video and priority service are not available or are prohibited today by commercial carriers, but will undoubtedly cause strains on public safety in the envisioned broadband network. It is likely that the commercial carrier will seek additional compensation to provide these types of services. The Commission does not recognize that operational funding is becoming increasingly more difficult to secure, and therefore, the Commission's proposal provides no assurance of a solution that will deliver the envisioned national interoperability. In fact, we would argue that it would be unlikely to achieve interoperability with this approach.

Additionally, as proposed in the Ninth NPRM, the Commission suggests the creation of a model that creates a disincentive for maximum utilization of the broadband network. "Not only should public safety entities that make heavy use of the spectrum in all fairness pay relatively higher usage fees, but an appropriately designed system of usage fees could facilitate the allocation of broadband capacity to highest value uses."⁵ Do we really want to create such a service where personnel and executives have to make difficult decisions about whether or not to allow some data to flow over the network? Even if the information could flow using other means, public safety's mission and focus should be on saving lives and property – not distributing DVD disks or other media. The adage goes time is money. In public safety, time is lives. That individual distributing DVD disks might be better utilized in life saving efforts.

Several Coalition members have undertaken studies comparing the cost of building and operating a broadband network that meets their needs with today's commercial costs (i.e., without the premium services). Due to existing infrastructure including multiple buildings, towers, generators, backhaul, and other assets, this cost is expected to be below that of commercial costs given today's adoption rate within these governments. Further, the broadband equipment can be procured in a highly competitive environment and at affordable prices. As wireless data becomes more mission critical and more users are added to the network, the economics improve dramatically due to the low incremental cost of supporting additional customers on a self owned and managed network. In our estimation, commercial service prices would need to decline dramatically **and at the same time, increase in reliability, priority, and capability** before public safety would adopt such a service. Many in the Coalition believe we can

⁵ See Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, *Ninth Notice of Proposed Rulemaking*, 21 FCC Rcd 3668 (2006) (*Eighth NPRM*) § III, Subsection B.3.28, p.9

achieve per user costs targets with our own networks, but we are extremely skeptical of the price we would face with the Commission's proposal.

Authority of the FCC:

There is considerable risk to this model if the FCC lacks the legal authority to utilize this spectrum for commercial service or to allocate the spectrum to a non-state or local government entity. Based on our understanding of the law allocating this spectrum to public safety, FCC does not currently have the authority to allocate any portion of the existing 24 MHz of public safety spectrum in the 700 MHz band to either commercial or non-state or local government. We do not doubt that some public safety entities across the country might want to take advantage of a leased service option; however, it can only be exercised after the Congress modifies public law to grant the FCC this power. If Congressional action is required, it could take months, if not years, to resolve this issue.

Timing:

Whether or not a commercial entity can legally build and profitably operate this network in this band will be unknown for some time. Additionally, what an acceptable public safety service will cost will not be known until a licensee would be selected, requirements fully developed, a guaranteed proposal delivered, a contract negotiated, and the markets and marketplace confirm that the carrier's business plan is sustainable. It could be several years, if at all, before public safety has a viable commercial based option. Several Coalition members are ready to move forward with building broadband networks now, the continued rulemaking efforts by the Commission dramatically undermines these efforts and delays implementation of life saving tools. The Coalition applauds the FCC's efforts to deliver broadband capabilities to public safety. However, this lengthy process will ultimately delay public safety broadband capabilities that could save lives today. It is our belief that the FCC should act immediately on the Eighth Notice of Proposed Rulemaking and issue a Report and Order to authorize licensing and implementation of broadband systems operated within the Commission's current legal authority to proliferate.

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Can a national commercial operator solve some of these issues? Yes, but at an unknown price. Issues such as reliability may be fairly straightforward to understand, but cause economic difficulties. What coverage is required across the country? Public safety systems are typically designed to cover 95 percent of the land mass for their operational area. That means the rural county itself requires 95 percent coverage. A national approach might deliver 95 percent coverage in some urban and suburban

areas, but will likely leave most or some rural areas without broadband coverage. Perhaps these areas cannot afford to build broadband themselves, so these areas would be under served, creating a huge gap in interoperability. What are these areas to do in the meantime? As an example, Loudoun County, one of Virginia's fastest growing suburban counties, is half built up and half rural. Will the commercial operator cover the Western rural portions of Loudoun? For this reason, Loudoun County joined with the National Capital Region (NCR) to build a Regional Wireless Broadband Network of networks (RWBN). If the FCC takes away this right, will the rural areas of Loudoun county be part of the country that's worthwhile for the commercial operator to cover? Coverage of rural and populous areas is a concern of many Coalition members whose areas of representation have similar statistics. Commercial coverage in these areas is limited or non-existent today. The dynamic prioritization and other control factors will take years to understand and to mitigate the risk of delivering the right information to the right personnel.

What does public safety do while the FCC wrestles with these questions? What if this effort never results in an affordable solution for public safety? The Commission will have diverted public safety attention, funds, and momentum to less ideal solutions in our estimation. Municipalities will be forced to consider the use of municipal Wi-Fi solutions which are impossible to make as robust as a 700 MHz infrastructure.⁶ Conjointly, they might be forced to focus their attention on other more expensive and less capable data solutions that also lack adequate robustness. Lack of access to 700 MHz broadband solutions in the interim could result in a worsening, not improving, data interoperability problem.

3. A Hybrid Model

Some agencies across the country may prefer public-private partnerships and might accept the risk that such public safety networks will ever exist and the services will become affordable. It seems unwise at this point to have such an early preference for such a solution without knowing its scope and cost. However, we support those who might prefer this option or do not have the technical or economic capability to build broadband networks, and therefore, they should have such an option.

We believe that interoperability can be achieved through the use of common standards, mandatory interconnections and mandatory roaming

⁶ Wi-Fi access points, whether at 2.4 GHz unlicensed or 4.9 GHz licensed, can be equipped with some amount of battery backup – perhaps four to eight hours. As has been seen with recent snow and ice storms, power can easily be out for far longer – leaving public safety without a data solution in those areas when they are needed most.

across networks. With these enacted policies, we can achieve the vision of a national, interoperable, broadband network of networks. We outline the mechanism for achieving this result and to augment local/state operated solutions below.

The Commission must allocate licenses to state and local public safety entities that agree to deploy the same standards, and interconnect with the national network. Upon the creation of the national licensee, these licenses, and future licenses could be considered sub-licenses of the national licensee. The issuance of a license or a sub-license to a region, state or local entity should occur on a no cost basis. Plans to interconnect these sub-networks into the national “network” must include provisions for no cost interconnections and roaming. In fact, public safety can partner with additional commercial service providers in the use of their wireless networks to support roaming when public safety has no coverage and as back-up to public safety networks.

It is critical that public safety entities have the capacity and capability to implement their own network consistent with the national vision proposed. A common national approach would be more cost-effective than a patchwork of networks using dissimilar technologies which could leave areas of the country vulnerable in times of greatest need. Rather, we believe that developing requirements for a common architecture, that could work in conjunction with commercial network infrastructure will dramatically lower costs for public safety through the realization of benefits from economies of scale. The use of these defined standards will encourage commercial entities and those that have the resources and interests to build, operate and manage their networks to build to a common platform.

Furthermore, a national licensee partnership with state and local entities operating their own broadband network can pay off in other ways. For example, the national licensee could enter into contracts that can be leveraged by state and local agencies. This would give local governments considerable cost savings on equipment and services.

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As expressed in prior submissions⁷, the Spectrum Coalition is supportive of a national broadband standard. Given the current state of the wireless industry’s broadband solutions at 700 MHz, only one technology exists today that delivers cost-effectiveness, performance, spectral efficiency, and the availability required: 1xEVDO Revision A. Exciting technologies on the horizon such as Long Term Evolution (LTE) may offer superior capabilities, but are currently not standardized and not available. Public

⁷ *Public Safety Spectrum: How Much Do We Need For Data?* Spectrum Coalition for Public Safety, 25 October 2005.

safety requires not only a cost-effective solution but one with a proven track record, and a solution used by commercial service providers to facilitate roaming. The solution utilized by public safety must also fit within the public safety band and allow graceful technology migration. Therefore, a channel size that will enable multiple channels to operate in the same geographic area is paramount. This means that given the current allocation and guard bands, a channel size of no more than 1.875 MHz is necessary⁸. However, the aggregation of multiple channels should allow higher throughput. There is no other broadband technology available today that will meet this requirement other than 1xEVDO, and Revision A is the latest proven commercially viable version of this standard. It is unknown whether UMTS or CDMA will win in the next iteration of the commercial technology campaigns. However, the question of foremost concern to us is when will they be widely available in the 700 MHz band with the support of major manufacturers? This uncertainty poses a major risk. Therefore, at this point, we contend that the only option is to select 1xEVDO Rev. A as the public safety standard until the public safety community, via National Public Safety Telecommunications Council (NPSTC), can select another standard. The Coalition is open to and anticipates the possibility that the national licensee and its commercial operators may find another technology such as LTE or WiMax more appropriate for use as they become available in the 700 MHz band. In that case, it will certainly be far easier to build backwards compatibility (via dual mode devices) into the WiMax or LTE devices than the multitude of solutions that would otherwise exist.

The Coalition feels strongly that the Commission should act immediately on the Eighth NPRM and reduce the risks that are presented to public safety through the FCC's inactivity, and allow state/local licensed broadband in the 12 MHz to commence immediately. Furthermore, the Commission must recognize that the path to interoperability is via the adoption of national standards. Those opposed to national standards must provide alternative solutions to the problems that will be faced. Based on our analysis of the issues, the ability to provide interoperability without any additional cost, given the increased competition as a result of more vendors selling products and services in the public safety arena will be achieved. We see no downside to standardization and acknowledge that the standards can and will evolve, and are prepared to coordinate our current standards with emerging technologies.

4. Secondary Operations in Public Safety Spectrum in the 700 MHz Band

⁸ Using the 3.75 MHz of usable broadband spectrum proposed by NPSTC (which includes guard bands) divided by two.

We are deeply concerned about the Commission's proposed use of the narrowband spectrum on a secondary basis and oppose such use unless the Regional Planning Committees permit it. From the sounds of the hype, the cognitive radio "industry" can perform miracles. However, there is no evidence that these technologies can utilize the spectrum risk free. In fact, given the way radio network architectures utilize the spectrum, cognitive radio will create significant risks.

Trunked narrow band voice systems do not use frequencies until they are needed. If a cognitive system leveraged this unused spectrum, a trunked system would detect it as interference and will remove channels from service. A secondary use cognitive system would be likely to perceive the idle channels as useable spectrum and by using those idle channels would cause them to be taken out of service by the public safety system. As demand on the cognitive system grew, the available number of public safety channels would diminish until that system no longer has sufficient capacity for our first responders. Eliminating the feature in trunked radio systems that removes channels from service would also be an unacceptable risk (other interference could cause unintelligible voice quality). Un-regulated use of the band, even on a secondary basis is unacceptable. Public safety does not have the resources to track down the sources of interference.

Furthermore, public safety is currently working to eliminate a commercial operator from within our the 800 MHz band, as the intermodulation products employed by the commercial operators cause out of band emissions. Therefore, any solution must accommodate not only co-channel interference, but also third, fifth, and seventh order harmonics. Without this, the carrier could interfere with public safety systems while operating on "unused" spectrum.

The only acceptable approach to this issue is for the RPCs to control which channels are available and in what locations to the secondary licensee - if they are available at all. The RPCs could then make the decision based on the overall good of public safety users in their region. They would assess the technical risk, the benefits of any commercial use of the band, and control the secondary use in a way that mitigates the risk to mission critical public safety systems. This approach builds on the spectrum management role already delegated to the RPCs.

CONCLUSION

We applaud the ongoing efforts of the Commission to ensure public safety has access to the spectrum it needs and agree this finite resource should be used in the most effective and efficient manner possible. We

believe that interoperability can be achieved through the use of common standards, mandatory interconnections and mandatory and secure roaming across commercial and other networks. With these enacted policies, we can achieve the vision of a national, interoperable, broadband network of networks. In this response, we outlined the mechanism for achieving this result and recommended a standard to achieve national interoperability.

The Coalition feels strongly that the Commission should act immediately on the Eighth NPRM and reduce the risks that are presented to the public safety through the FCC's current inaction. The Commission must allow state/local licensed broadband in the 12 MHz to commence immediately. Furthermore, the Commission must recognize that the path to interoperability is via the adoption of national standards. Although, the FCC has presented a model whereby the commercial sector builds a public safety network solution, there are unacceptable risks that this would ever happen with affordable service costs.

Our country is at the crossroads for providing public safety and first responders with vital tools that will protect our country for decades to come. However, having sufficient spectrum available to public safety is essential. The Spectrum Coalition members are concerned that the amount of broadband spectrum proposed by the FCC is not sufficient. The proper model for broadband is one where the FCC applies the commercial model with the 30 MHz of spectrum remaining in the Upper 700 MHz band, and the state and local entities that utilize the 12 MHz of data spectrum in the current 24 MHz allocation. This will allow jurisdictions and regions the option to choose building interoperable networks or leasing interoperable service.

Finally the risks associated with cognitive radio and secondary use of commercial systems are far too severe. Any secondary use in the narrowband spectrum must be coordinated and managed by the RPCs, if at all.

We thank you for your careful consideration of the information and solutions presented in this response.

Respectfully submitted,

SAFETY

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